

**STATE WATER RESOURCES CONTROL BOARD  
WATER QUALITY ORDER NO. 2009-0006-DWQ**

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR  
LANDSCAPE IRRIGATION USES OF MUNICIPAL RECYCLED WATER  
(GENERAL PERMIT)**

The State Water Resources Control Board (State Water Board) finds that:

1. The California Legislature has declared its intent to promote the use of recycled water. Recycled water<sup>1,2</sup> is a valuable resource and significant component of California's water supply. When used in compliance with the Recycled Water Policy,<sup>3</sup> California Code of Regulations (CCR) Title 22, and all applicable state and federal water quality laws, the State Water Board finds that recycled water is safe for approved uses, and strongly supports recycled water as a safe alternative to potable water for such approved uses.
2. This General Permit is intended to satisfy the requirements of California Water Code (Water Code) section 13552.5 and is for Producers and Distributors<sup>4</sup> of recycled water for landscape irrigation uses. This General Permit is intended to streamline the regulatory process for such uses of recycled water but may not be appropriate for all scenarios due to unique site-specific characteristics and conditions. For this General Permit, "recycled water" is limited to disinfected tertiary recycled water produced by a public entity at a municipal wastewater treatment plant (WWTP), as defined in Water Code section 13625(b)(1) and section 13625(b)(2). This General Permit is not applicable for the use of water produced from the treatment of other non-municipal wastewaters (e.g., oil field production, food processing, storm water, etc.) at other types of treatment facilities (e.g., industrial wastewater treatment plants). Pursuant to Water Code section 13552.5(e)(1), persons who are covered under this General Permit are not required to remain subject to the applicable provisions of existing waste discharge requirements or water reclamation requirements.
3. Landscape irrigation with recycled water is a viable strategy to reduce potable water demand and to reduce the volume of water wasted after a single use. Specified uses of recycled water considered "landscape irrigation" projects include any of the following:
  - i. Parks, greenbelts, and playgrounds;
  - ii. School yards;
  - iii. Athletic fields;
  - iv. Golf courses;
  - v. Cemeteries;

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<sup>1</sup> *Recycled Water*: Water which, as a result of treatment of municipal wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource (Water Code section 13050).

<sup>2</sup> The terms "recycled water" and "reclaimed water" have the same meaning (Water Code section 26).

<sup>3</sup> The Recycled Water Policy was adopted on February 3, 2009 under State Water Board Resolution No. 2009-0011.

<sup>4</sup> Throughout this General Permit, refer to Attachment A for definitions.

- vi. Residential landscaping, common areas;<sup>5</sup>
  - vii. Commercial landscaping, except eating areas;
  - viii. Industrial landscaping, except eating areas; and
  - ix. Freeway, highway, and street landscaping.
4. Recycled water projects eligible for coverage under this General Permit shall meet the following treatment and use standards:
- a. The Producer shall, being a public entity, produce disinfected tertiary recycled water, as defined in CCR Title 22, sections 60301.230 and 60301.320, at a municipal wastewater treatment plant; and
  - b. The Distributors shall comply with the applicable uniform statewide reclamation criteria established pursuant to CWC section 13521 (i.e., CCR Title 22 section 60301 et. seq., hereafter “Title 22 Requirements”).
  - c. The Producer and Distributor shall ensure that Users comply with the applicable uniform statewide reclamation criteria established pursuant to Title 22 Requirements.
  - d. The Producers and Distributor shall satisfy all applicable requirements of the Recycled Water Policy.
5. The use of recycled water for landscape irrigation has characteristics which can create water quality and public health problems if improperly treated and managed. It is necessary to establish requirements for landscape irrigation uses of recycled water that ensure protection of water resources and public health. (e.g., pathogenic organisms, salinity and other waste constituents, and potential for unauthorized discharges).
6. This General Permit establishes requirements to manage recycled water for landscape irrigation uses in a manner that is protective of public health and the environment. The State Water Board will exercise its authority to the fullest extent possible to encourage the use of recycled water, consistent with state and federal water quality laws. The beneficial use of recycled water for landscape irrigation under this General Permit is environmentally sound and preferable to non-beneficial disposal and waste of water. This General Permit builds on extensive work that has already been done by the Water Boards, the California Department of Public Health (CDPH), the 2003 Recycled Water Task Force and many others.
7. This General Permit is applicable to Use Areas where recycled water is used or conveyed for landscape irrigation and is not intended to regulate the treatment of municipal wastewater. Compliance with this General Permit does not relieve Producers or Distributors from the obligation to comply with applicable waste discharge requirements for discharges from wastewater treatment plants other than landscape irrigation uses of recycled water authorized pursuant to this General Permit.

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<sup>5</sup> Individually owned residences are not eligible for coverage under this General Permit. The Regional Water Boards will address individually owned residences on a case-by-case basis.

8. To obtain coverage under this General Permit, either a Producer or a Distributor shall submit a complete Notice of Intent (NOI) form (Attachment B), Operations & Maintenance Plan, and appropriate application fee to the State Water Board. Either a Producer or a Distributor shall declare responsibility for the administration of the recycled water program authorized pursuant to this General Permit (hereafter Administrator). A duly authorized representative for each entity involved in the production and distribution of recycled water shall each sign the NOI form as appropriate. The Producer and Distributor may be the same entity. Administrators who submit a complete application package, meet the eligibility criteria of this General Permit, and following the conclusion of a thirty (30) day public review period, will typically be authorized to distribute recycled water for landscape irrigation uses.
9. The application fee shall be equal to the annual fee, pursuant to Water Code section 13260. Fee amounts are specified in Section 2200, Chapter 9, Division 3, Title 23, CCR. The Administrator shall be billed for an annual fee equal to the application fee until coverage under the General Permit has been terminated.
10. The Regional Water Quality Control Boards (Regional Water Boards) have evaluated groundwater and surface waters within their jurisdictions for their maximum potential beneficial uses.<sup>6</sup> Some of those use categories are identified in Attachment A. Beneficial uses for specific water bodies can be found in the applicable Water Quality Control Plan (Basin Plan) where the recycled water is used. Basin plans establish water quality objectives to protect the specific designated beneficial uses that may include numerical objectives and / or narrative objectives for chemical constituents in and toxicity of groundwater. Basin Plans establish procedures to quantify the maximum permissible concentrations of constituents for groundwaters designated as municipal, agricultural, and other beneficial uses.

### **PATHOGENIC ORGANISMS**

11. To protect public health, this General Permit employs a minimum treatment standard of disinfected tertiary recycled water, as well as exposure control measures including minimum setback distances, signage, method of application, and use restrictions.
12. To protect public health from risks associated with potential cross-connection and subsequent contamination of potable water systems, California Health and Safety Code (HSC) section 116555 requires that a public water system shall ensure that the system will not be subject to backflow under normal operating conditions. HSC Section 116800 et. seq. authorizes local health officers to maintain a program for the control of cross-connections by water users where public exposure to drinking water contaminated by backflow may occur. Cross-connection programs shall be

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<sup>6</sup> Water Code section 13050(f)

conducted in accordance with backflow prevention regulations adopted by CDPH and may require water users to comply with all orders, instructions, regulations, and notices from the local health officer with respect to the installation, testing, and maintenance of backflow prevention devices.

### **SALINITY & NUTRIENTS**

13. The source of salts and nutrients is attributed to water soluble inorganic and organic constituents in imported water, soil leached by irrigation, animal wastes, fertilizers and other soil amendments, municipal use, industrial wastewaters, and oil field wastewaters. These salt sources, all contributors to salinity increases, should be managed in a manner consistent with the Recycled Water Policy, specifically paragraphs 6 and 9(d).
14. Several approaches can be used to manage concerns over salt accumulations in groundwater. In the absence of treatment or a plan to remove accumulated salinity, another viable approach is to manage the rate of degradation by minimizing the salt loads to the groundwater basin. Salinity loads contributed by the reuse of municipal wastewater can be reduced by either precluding anthropogenic derived salts from introduction into the wastewater collection systems (e.g., source control or pretreatment of wastes) or treatment of salts at the wastewater plant (i.e., removal of salts), or both. Another viable option is a salt/nutrient management plan for a groundwater basin. The State Water Board has addressed the topic of salt management, as it concerns recycled water, in the Recycled Water Policy.
15. The agricultural beneficial use of groundwater tends to be the most vulnerable beneficial use to salinity accumulation. This loss of the agricultural beneficial use is not immediate. Control of salinity accumulation is a major part of several Basin Plans, and will be the topic of the salt/nutrient management plans required by the Recycled Water Policy. In general, salt loads reaching a groundwater body must be reduced. Storage of salt in the soil through increased irrigation efficiency is a good practice, but is not a permanent solution.
16. In [Water Quality Order No. 2000-07](#),<sup>7</sup> the State Water Board determined that a Producer cannot shift responsibility for discharged salt to the User. This General Permit requires the Producer to produce recycled water that meets the quality standards of this General Permit and associated waste discharge requirement order(s) for the wastewater treatment plant(s).
17. In the absence of detailed hydrological data, it is the responsibility of both the project proponent and the California Water Boards to exercise sound and reasoned judgment in evaluating the case-specific effects of proposed projects and the available factual data for each project. This General Permit attempts to accomplish the balancing of factors necessary to evaluate most projects in the absence of case-specific information. In doing so, this General Permit also establishes a basic

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<sup>7</sup> San Luis Obispo Golf & Country Club, Central Coast Region, State Board WQO No. 2000-07, p 10-12

regulatory strategy to manage the salinity of most recycled water used for landscape irrigation. If, after review of the available factual data, the Executive Director determines that the case-specific effects of a proposed project are inconsistent with the requirements of this General Permit and the Recycled Water Policy (i.e., “unusual circumstances” as used in the Recycled Water Policy), the project is not eligible for coverage under this General Permit.

### **CHLORINE**

18. Some Producers and Distributors chlorinate recycled water delivered and stored for reuse to prevent regrowth of pathogens and growth of organisms that could cause odor nuisance and operational difficulties in the reclamation system. Chlorine is toxic to fish and other aquatic life even at low concentrations.

### **EMERGING CONSTITUENTS/CHEMICALS OF EMERGING CONCERN (CECs)**

19. A need exists to increase understanding of CECs that may be present in recycled water used for landscape irrigation. The many evolving issues associated with “emerging contaminants” are presently the subject of a number of studies, including a major study being undertaken by the National Water Research Institute, the Metropolitan Water District of Southern California, and the Orange County Water District (hereafter Study), estimated to be completed in 2009.
20. Many water supply agencies, at their own expense, are developing and implementing voluntary studies based on the best available science intended to better characterize the presence, extent, distribution and persistence of certain unregulated constituents in water supplies. The State Water Board supports these voluntary efforts.
21. As required by the Recycled Water Policy, the State Water Board is convening a CEC advisory panel to provide recommendations on CEC monitoring and other topics. The State Water Board has consulted with CDPH, the primary state agency responsible for the protection of public health and the regulation of drinking water standards, in convening the CEC advisory panel. In accordance with the Recycled Water Policy, this General Permit does not specify CEC monitoring requirements. After the State Water Board takes action on the recommendations of the CEC advisory panel, this General Permit will be reviewed for any needed revisions.
22. The constituents that are the subject of studies subject to the scrutiny of CDPH, the United States Environmental Protection Agency, and the United States Geological Survey, will in all likelihood change over time as their relative importance or unimportance to human health and the environment becomes better known.

### **UNAUTHORIZED DISCHARGES OF RECYCLED WATER**

23. At some Use Areas, recycled water is discharged into landscape irrigation storage ponds (hereafter “impoundments”) that function as storage for irrigation and may also serve an aesthetic purpose. Some impoundments were originally designed and constructed to collect storm water runoff from surrounding areas and allowed to overflow excess water into nearby drainage ways and creeks. Recycled water used for irrigation of golf courses, parks, or other open spaces and landscaped areas may occur in areas containing numerous hills and sloped areas that could promote runoff unless closely managed during irrigation. In some cases, various chemicals (e.g., copper sulfate, acrolein, etc.) may be added to impoundments for weed, algae, and vector control.
24. When Best Management Practices (BMPs) are implemented, conditions causing runoff, ponding, and windblown spray (drift) are minimized to a negligible amount, and in some cases, eliminated. Attachment C of this General Permit includes a list of BMPs, including specific requirements of the Recycled Water Policy.
25. The control of incidental runoff and compliance with regulatory instruments, including National Pollutant Discharge Elimination System (NPDES) permits, is addressed in paragraph 7(a) of the Recycled Water Policy. This General Permit is in conformance with these requirements.

### **MASTER RECLAMATION PERMITS**

26. CWC section 13523.1 authorizes each Regional Water Board, after consulting with CDPH, to issue a master reclamation permit to a Producer or Distributor, or both, of recycled water, in lieu of issuing waste discharge requirements or water recycling requirements.
27. In some cases, especially for municipal wastewater discharges via an ocean outfall, the NPDES permit for the Producer’s facility does not include requirements necessary to ensure the protection of beneficial uses of groundwater resources (e.g., agricultural supply, municipal supply). In order to facilitate the use of recycled water, Regional Water Boards adopt master reclamation permits that implement the Title 22 Requirements and consider potential impacts to the beneficial uses of groundwater. Thereby, some master reclamation permits prescribe discharge limitations necessary to ensure the protection of beneficial uses of groundwater resources not otherwise included in a Producer’s NPDES permit.
28. A benefit of master reclamation permits is that individual recycled water users are not required to seek individual authorization from a regional water board, thereby avoiding additional regulatory burdens and costs. Administrators that operate pursuant to a master reclamation permit shall be allowed to retain coverage under the master reclamation permit. Alternatively, an Administrator may request coverage under this General Permit.

### REGULATORY CONSIDERATIONS

29. The discharges authorized by this General Permit are limited to the discharge of disinfected tertiary recycled water (as defined CCR Title 22, sections 60301.230 and 60301.320) produced by a public entity at a municipal wastewater treatment plant. Such wastewater treatment plants will generally maintain the same or similar wastewater treatment operations, involve the treatment of the same or similar types of waste, and require the same or similar treatment standards.

30. Water Code Section 13267(b)(1) states the following:

*In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports*

31. Water Code Section 13267(c), in part, states the following:

*In conducting an investigation pursuant to subdivision (a), the regional board may inspect the facilities of any person to ascertain whether the purposes of this division are being met and waste discharge requirements are being complied with.*

32. Water Code Section 13267(f) states the following:

*The state board may carry out the authority granted to a regional board pursuant to [Water Code section 13267] if, after consulting with the regional board, the state board determines that it will not duplicate the efforts of the regional board.*

33. The information required by this General Permit is necessary to determine compliance with this General Permit and to ensure compliance with the Water Code and the Title 22 Requirements. Improper use or discharge of recycled water represents a threat to the quality of waters of the state and to human health and the environment. A completed NOI form identifies the entities responsible for ensuring proper production, distribution, and/or use of recycled water in accordance with this General Permit.

34. The information required by this General Permit will not duplicate the efforts of the regional board.
35. In 1977, the State Water Board adopted [Resolution No. 77-1](#), titled “Policy with Respect to Water Reclamation in California” (Resolution No. 77-1). Resolution No. 77-1, in part, encourages the use of recycled water in the state.
36. A 1996 Memorandum of Agreement (MOA) between CDPH and the State Water Board on behalf of itself and the Regional Water Boards regarding the use of recycled water allocates primary areas of responsibility and authority between these agencies. The MOA provides methods and mechanisms necessary to ensure ongoing and continuous future coordination of activities relative to the use of recycled water in California. This General Permit includes requirements consistent with the MOA.
37. In 1968, the State Water Board adopted [Resolution No. 68-16](#) (hereafter the “Antidegradation Policy”) which requires that the authorization to discharge waste maintain high quality waters of the State until it is demonstrated that any change in quality is consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in water quality policies (i.e., will not result in exceedances of water quality objectives).
38. Degradation of groundwater by constituents in recycled water after effective source control, treatment, and control may be determined consistent with maximum benefit to the people of California. This determination is based on considerations of reasonableness under the circumstances of the recycled water use. Factors to be considered include:
  - a. Past, present, and probable beneficial uses of the receiving water (as specified in the applicable basin plan);
  - b. Economic and social costs, tangible and intangible, of the recycled water usage compared to the benefits;
  - c. Environmental aspects of the recycled water usage; and
  - d. Implementation of feasible alternative treatment or control methods.
39. This General Permit establishes terms and conditions of discharge to ensure that the discharge does not unreasonably affect present and anticipated beneficial uses of groundwater and surface water for the following reasons:
  - a. Recycled water will be applied at agronomic rates reflecting the seasonal hydraulic and nutrient requirements of the Use Area;
  - b. The Producer is responsible for ensuring that recycled water meets the quality standards of the General Permit and associated waste discharge requirement order(s) for the municipal WWTP(s); and
  - c. Discharge to surface waters, unless otherwise authorized by an NPDES permit, is prohibited.



40. Degradation of groundwater by some of the typical waste constituents released with discharges from a municipal WWTP after effective source control, treatment, and use control is consistent with maximum benefit to the people of the State. Economic prosperity of State communities and associated industries is of maximum benefit to the people of the State, and therefore sufficient reason to allow limited groundwater degradation, provided that terms of the applicable Water Quality Control Plan and the Recycled Water Policy are met.
41. To comply with this General Permit, Producers and Distributors, must implement (and ensure Users implement) the following treatment and control measures necessary to avoid pollution or nuisance and maintain the highest water quality consistent with the maximum benefit to the people of the state:
  - a. Implement treatment and use standards necessary to produce disinfected tertiary recycled water and implement the applicable Title 22 Requirements;
  - b. Apply recycled water at agronomic rates;
  - c. Identify and implement best management practices;
  - d. Develop, maintain, and implement an Operation & Maintenance Plan; and
  - e. Employ trained personnel (e.g., Recycled Water Use Supervisor)

#### **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

42. To mitigate or avoid environmental effects on water quality, this General Permit:
  - a. Requires application of recycled water at reasonable agronomic rates considering soil, climate, and nutrient demand;
  - b. Requires areas irrigated with recycled water be managed to prevent nuisance conditions or breeding of mosquitoes; and
  - c. Establishes a Monitoring and Reporting Program, which includes inspections and regular maintenance of areas irrigated with recycled water.
43. On July 7, 2009, in accordance with California Environmental Quality Act (CEQA),<sup>8</sup> the State Water Board, acting as the lead agency, adopted Resolution No. 2009-0059 which certified a Mitigated Negative Declaration for this project and determined that the project would have no significant effect on the environment.
44. The State Water Board has notified all known interested agencies and persons of its intent to prescribe general waste discharge requirements for landscape irrigation uses of recycled water and has provided all known interested agencies and persons with an opportunity for a public hearing and an opportunity to submit comments.
45. The State Water Board has consulted with and considered comments from the regional water quality control boards, groundwater management agencies and water replenishment districts with statutory authority to manage groundwater pursuant to their principal act, CDPH, and other interested parties.

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<sup>8</sup> Public Resources Code, Section 21000, et seq.

46. The State Water Board, in a public meeting on July 7, 2009, heard and considered all comments pertaining to this General Permit.

**IT IS HEREBY ORDERED** that all Producers and Distributors of recycled water, or combinations thereof, that file a complete application package declaring their intention to be regulated under provisions of this General Permit, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

**A. PROHIBITIONS**

1. The use of recycled water pursuant to this General Permit is prohibited unless the Administrator has submitted a complete Notice of Intent (NOI) form, Operation & Maintenance Plan, and application fee and has received confirmation of enrollment under this General Permit.
2. The use of recycled water in a manner different than described in the Operation & Maintenance Plan is prohibited.
3. The use of recycled water, pursuant to this General Permit, for individually owned residences other than as described in Finding No. 3 is prohibited.
4. In conformance with Title 22 Requirements, recycled water shall not be used for direct human consumption or for the processing of food or drink intended for human consumption.
5. The use of recycled water for uses other than landscape irrigation uses is prohibited.
6. The use of recycled water on water-saturated or frozen ground or during periods of precipitation such that runoff is induced, is prohibited.
7. The direct or indirect discharge from use areas of recycled water to surface waters, either perennial or ephemeral, including wetlands, vernal pools, etc. is prohibited, unless otherwise authorized by an NPDES permit.
8. The application of recycled water within fifty (50) feet of a domestic well, and impoundment of recycled water within one hundred (100) feet of a domestic well, unless approved by CDPH, is prohibited.
9. Use or installation of hose bibbs in areas accessible by the public on any irrigation system presently operating or designed to operate with recycled water, regardless of construction or identification, is prohibited.
10. Use of any equipment or facilities that have been used to convey recycled water (e.g., tanks, temporary piping or valves, and portable pumps) also used for potable water supply conveyance, is prohibited.

11. The discharge or use of recycled water in a manner that causes or contributes to an exceedance of an applicable water quality objective is prohibited.
12. The use of recycled water for landscape irrigation shall not cause or threaten to cause pollution or nuisance as defined in Water Code section 13050.

## **B. SPECIFICATIONS**

1. Recycled water shall be managed in conformance with the applicable regulations contained in the Title 22 Requirements.
2. All recycled water provided to Users pursuant to this General Permit, shall be treated in and managed in conformance with all applicable provisions of the Recycled Water Policy.

### **Disinfected Tertiary Recycled Water Criteria**

3. The Producer or Distributor shall collectively provide all Users disinfected tertiary recycled water that meets the standards for *disinfected tertiary recycled water* as described in CCR Title 22, sections 60301.230 and 60301.320.

### **Recycled Water Application**

4. Application of recycled water to the Use Area shall be at reasonable agronomic rates and shall consider soil, climate, and nutrient demand. Application rates shall ensure that a nuisance is not created. Degradation of groundwater, considering soil, climate, and nutrient demand, shall be minimized consistent with applicable provisions of the Recycled Water Policy.
5. The seasonal nutritive loading of the Use Area including the nutritive value of organic and chemical fertilizers and of the recycled water, shall not exceed the nutritive demand of the landscape.
6. Use Areas that are spray irrigated and allow public access shall be irrigated during periods of minimal use. Consideration shall be given to allow maximum drying time prior to subsequent public use.

**Recycled Water Utilities, Equipment, Signage, and Use Areas**

7. All newly installed or any accessible reclamation equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities. All newly installed or any accessible reclamation distribution system piping shall be purple or adequately identified with purple tape, tags, or stickers per Section 116815(a) of the California Health and Safety Code.
8. Except as allowed under Section 7604 of Title 17, California Code of Regulations, no physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water. Supplementing recycled water with potable water shall not be allowed except as approved by CDPH.
9. A 4-foot horizontal and 1-foot vertical separation<sup>9</sup> shall be maintained between all new pipelines transporting recycled water and those transporting domestic water, unless approved by CDPH. Domestic water pipelines shall be configured above recycled water pipelines, unless approved by CDPH.
10. All recycled water valves, outlets, and quick couplers should be of a type or secured in a manner that only permits operation by authorized personnel.
11. The main shutoff valve of the recycled water meter shall be tagged with a recycled water warning sign. The valve shall be equipped with an appropriate locking device to prevent unauthorized operation of the valve.
12. Except where CDPH has approved alternative signage and wording or an educational program pursuant to Title 22 Requirements, (1) all use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public in a size no less than four inches high by eight inches wide that include the following wording “RECYCLED WATER-DO NOT DRINK”, and (2) each sign shall display an international symbol similar to that shown in Attachment D.
13. Spray, mist, or runoff of recycled water shall not enter dwellings, designated outdoor eating areas, or food handling facilities. Drinking water fountains shall be protected against contact with recycled water spray, mist or runoff.
14. Recycled water shall be managed to minimize contact with workers.
15. Best Management Practices (BMPs) shall be developed and implemented to achieve a safe and efficient irrigation system. At a minimum, the Administrator shall implement and ensure that all other Producers,

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<sup>9</sup> As measured from the nearest outside edge of the respective pipelines.

Distributors, and Users associated with each respective NOI implement the Required BMPs identified in Attachment C (I.A. – I.D.) and consider implementing other BMPs as appropriate.

16. Recycled water shall not be allowed to escape from the Use Area by overspray, mist or by surface flow except in minor amounts such as that associated with BMPs for good irrigation practices.
17. Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other vectors, and to avoid creation of a public nuisance or health hazard. The following practices shall be implemented, at a minimum:
  - a. Irrigation water must infiltrate completely within a 48-hour period.
  - b. Ditches receiving irrigation runoff, not serving as wildlife habitat, shall be maintained free of emergent, marginal, and floating vegetation.
  - c. Low-pressure and unpressurized pipelines and ditches that may be accessible to mosquitoes shall not be used to store recycled water.
18. The Producer or Distributor shall discontinue delivery of recycled water during any period in which either has reason to believe that the requirements for use as specified herein or the requirements of CDPH are not being met. The delivery of recycled water shall not resume until all conditions have been corrected.

### **C. PROVISIONS**

1. A duly authorized representative for each Producer and Distributor shall each sign the completed NOI form (Attachment B). Enforcement actions for violations of this General Permit may be taken against all responsible entities for violations of any part of this General Permit. However, in general, responsibilities for Producers and Distributors are as follows:
  - a. Producers shall be responsible for ensuring that recycled water meets the quality standards of this General Permit and any associated waste discharge requirement order(s) for the WWTP(s).
  - b. Distributors shall be responsible for the operation and maintenance of transport facilities and associated appurtenances necessary to convey and distribute the recycled water from the point of production to the point of use with all applicable Title 22 requirements.
  - c. The Producer and Distributor shall be responsible for the application and use of recycled water in the respective Use Areas and for associated operations and maintenance in accordance with all applicable Title 22 requirements and this General Permit. The Producer and Distributor are also responsible for ensuring that Users maintain the minimum land application acreage and impoundment

capacity to comply with the terms and conditions of this General Permit.

2. The Administrator shall comply with Monitoring and Reporting Program No. 2009-0006-DWQ and revisions thereto, as specified by the Executive Director.
3. CDPH may identify in its recommendations with respect to the proposed recycled water use any conditions upon which its approval of a proposed project is based. "Conditions of approval" submitted as part of CDPH's recommendations will be incorporated into a Notice of Applicability for the proposed recycled water use project.
4. The Administrator shall require each User to designate a Recycled Water Use Supervisor for each Use Area, respectively. The Recycled Water Use Supervisor shall be responsible for the recycled water system within the Use Area. Specific responsibilities of the Recycled Water Use Supervisor, at a minimum, shall include the following:
  - a. Proper installation, operation and maintenance of irrigation systems;
  - b. Control of on-site piping to prevent any cross-connections with potable water supplies;
  - c. Development of and implementation of a set of procedures to verify on an ongoing basis that cross-connections have not occurred between potable water supplies and recycled water supplies;
  - d. Routine inspection and maintenance of backflow prevention devices installed to protect potable water supplies, consistent with section 7605 of Title 17, California Code of Regulations; and
  - e. General responsibilities to ensure compliance with this General Permit and continuous implementation of any Best Management Practices identified as necessary to prevent potential hazards to public health and to protect the environment.
5. Prior to commencing irrigation with recycled water, the Administrator shall submit an Operations and Maintenance Plan (O&M Plan) to the State Water Board. An O&M Plan shall contain the following elements:
  - a. An Operations Plan. A detailed operations plan for the Use Areas including methods and procedures for implementation of regulations regarding recycled water use and maintenance of equipment and emergency backup systems to maintain compliance with the conditions of this General Permit and CDPH requirements (i.e., identification of BMPs implemented to achieve and maintain compliance).
  - b. An Irrigation Management Plan. The Irrigation Management Plan shall include measures to ensure the use of recycled water occurs at an agronomic rate while employing practices to ensure irrigation

efficiency necessary to minimize application of salinity constituents (by mass) to Recycled Water Use Areas. The Irrigation Management Plan shall be applicable for each Recycled Water Use Area served and shall account for the following:

- i. Soil characteristics;
- ii. Recycled water characteristics (nutrients, including nitrogen and phosphorous content; specific ion toxicity, including chloride, boron, sodium, bicarbonate; and other parameters);
- iii. General requirements of the major plant species being irrigated (e.g., seasonal demand, climate, nutrient requirements);
- iv. Climatic conditions (e.g., precipitation, evapotranspiration rate, wind);
- v. Other supplemental nutrient additions (e.g., chemical fertilizers) generally used within the Use Area; and
- vi. Management of impoundments used to store or collect recycled water.

Where conditions 5.b.i. thru 5.b.vi vary substantially across a service area, the Irrigation Management Plan shall also include sub-basin irrigation management plans that ensure the use of recycled water occurs at an agronomic rate while employing practices to ensure irrigation efficiency necessary to minimize application of salinity constituents (by mass).

- c. A summary of the applicable approved Title 22 Engineering Report submitted to CDPH. The summary of the Title 22 Engineering Report shall address the following:
  - i. Method(s) of wastewater treatment and manner for achieving disinfected tertiary recycled water;
  - ii. Method(s) to be used to assure that the installation and operation of the recycled system will not result in cross-connections between the recycled water and potable water piping systems.
  - iii. Any recommendations or “conditions of approval” provided by CDPH;
  - iv. Copy of any approval letter(s) prepared by CDPH<sup>10</sup>.Administrators may provide a copy of the complete approved Title 22 Engineering Report in lieu of a summary. The Title 22 Engineering Report shall be available upon request for review and inspection.
- d. A copy of the Producer’s or Distributor’s established rules and/or regulations as approved by CDPH for Producers, Distributors and Users governing the design and construction of recycled water use facilities and the use of recycled water in accordance with the criteria established in the Title 22 Requirements and this Permit.

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<sup>10</sup> Formerly, the California Department of Health Services

- e. A copy of the written (and signed) agreement between the respective parties responsible for the producing, distributing, and using the recycled water.
  - f. Recycled Water Use Supervisor responsibilities and training.
    - i. Documentation of or examples from a training program including periodic education, for Recycled Water Use Supervisors. At a minimum, such training programs shall include the following elements:
      - (1) The safe and efficient operation and maintenance of recycled water use facilities.
      - (2) Prevention of runoff from Recycled Water Use Areas.
      - (3) Matching irrigation rates to the water requirements of the landscape, and not applying when the soil is saturated.<sup>11</sup>
      - (4) Means for ensuring recycled water and other supplemental nutrients (including fertilizers) are used pursuant to the Irrigation Management Plan (i.e., at agronomic rates<sup>12</sup>)
      - (5) Prevention of cross-connections with potable water systems
    - ii. A copy of an example duty statement for the Recycled Water Use Supervisor responsible for the Use Area.
    - iii. Verification that the Recycled Water Use Supervisor has attended training regarding the safe and efficient operation and maintenance of recycled water use facilities.
6. Producers and Distributors shall maintain and comply with the O&M Plan, and all portions thereof including the Irrigation Management Plan submitted pursuant to this General Permit and the applicable Title 22 Engineering Report.
7. Amendments to the approved Title 22 Engineering Report as well as a description of new use sites shall be submitted to the appropriate public health authority for approval in advance of connection. The Administrator shall include in the annual report submitted to the State Water Board copies of approval letter(s) prepared by CDPH regarding (1) such amendments to the Title 22 Engineering Report and (2) a description of new sites.
8. The Administrator shall ensure that all Users comply with the O&M Plan, and all relevant portions thereof including the Irrigation Management Plan submitted pursuant to this General Permit and the applicable approved Title 22 Engineering Report. To demonstrate compliance with this Provision, the Administrator may develop a pamphlet, brochure, or other educational materials, that convey the key operational elements (e.g., prevention of cross-connections, how to adjust fertilization rates, impoundment management practices, etc.) of the O&M Plan to the Recycled Water Use

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<sup>11</sup> Accounting for soil saturation conditions

<sup>12</sup> Including accounting for fertilizers



Supervisor. The Administrator shall also ensure compliance with any applicable Salt and Nutrient Management Plans.

9. The Administrator shall ensure that periodic inspections are conducted of the Use Areas they supply at a frequency approved by CDPH (but no less than annually), including an adaptive approach to address Use Areas with a record of compliance concerns. The Administrator shall also establish procedures to monitor and assure compliance with conditions of this General Permit. The Administrator shall also ensure that regular inspections occur to assure cross-connections with potable water systems are not made and air-gap devices are installed and operable.
10. The Producer and Distributor shall keep a copy of the O&M Plan and this General Permit, including its Monitoring and Reporting Program, and attachments in a location where they can be easily referenced by operating personnel. Key operating personnel, including the Recycled Water Use Supervisor, shall be familiar with its contents.
11. The Producer and Distributor shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed to achieve compliance with the conditions of this General Permit.
12. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code<sup>13</sup>. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
13. All storm water discharges, including conditionally authorized or exempted non-storm water discharges, from recycled water use areas must comply with the lawful requirements of municipalities, counties, drainage districts, and/or other local agencies, regarding discharges of storm water to Municipal Separate Storm Sewer Systems (MS4s) under their jurisdiction.
14. It is the responsibility of the Producer and Distributor to make inquiry and to obtain any local, state, and federal governmental agency permits or authorizations prior to the distribution and use of recycled water for landscape irrigation.

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<sup>13</sup> sections 6735, 7835, and 7835.1

15. Coverage under this General Permit is not transferable. The Administrator shall notify the Executive Director in writing at least thirty (30) days in advance of change in ownership related to the Administrator, other Distributors, or Producers authorized to use recycled water pursuant to this General Permit. The Administrator shall use the Notice of Termination (NOT) form in Attachment E to satisfy this provision.
16. The Administrator shall require Users to notify the Administrator in writing within thirty (30) days of any changes to Recycled Water Use Supervisor personnel or changes to contact information for the Recycled Water Use Supervisor.
17. Upon enrollment in this General Permit, if the Producers or Distributors are subject to general or individual waste discharge requirements or water reclamation requirements, the provisions of such requirements are null and void to the extent that the recycled water use is regulated by this General Permit.
18. The State Water Board will review this General Permit periodically and will revise requirements when necessary. Specifically, monitoring requirements could be revised to include CEC monitoring, if the State Water Board finds such monitoring to be necessary and appropriate, based on recommendations from the CEC Advisory Panel. Furthermore, the State Water Board would modify this General Permit if a regulatory or statutory change occurs that affects the application of the General Permit, or as necessary to ensure protection of beneficial uses. This General Permit may also be modified, rescinded and reissued, for cause. The Executive Director may also terminate coverage under this General Permit for cause. The Executive Director is hereby authorized to revise the Monitoring and Reporting Program and Attachments B, C, D, E, and F of this General Permit. Causes for modification or termination of coverage include, but are not limited to, changes to statutes, the promulgation of new regulations, adoption of new policy, modification to water quality control plans, Regional Water Board finding of “unusual circumstances” per the Recycled Water Policy, or other changes determined necessary to protect beneficial uses of waters of the state.

**CERTIFICATION**

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on July 7, 2009.

AYE: Chairman Charles R. Hoppin  
Vice Chair Frances Spivy-Weber  
Board Member Arthur G. Baggett, Jr.  
Board Member Tam M. Doduc

NAY: None

ABSENT: None

ABSTAIN: None



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Jeanine Townsend  
Clerk to the Board

**STATE WATER RESOURCES CONTROL BOARD  
MONITORING AND REPORTING PROGRAM NO. 2009-0006-DWQ  
GENERAL PERMIT FOR  
LANDSCAPE IRRIGATION USES OF MUNICIPAL RECYCLED WATER**

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code section 13267(f). All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with the latest edition of *Guidelines Establishing Test Procedures for Analysis of Pollutants*, promulgated by the United States Environmental Protection Agency (U.S. EPA) or other procedures approved by the Executive Director. In reporting monitoring data, the Administrator shall indicate whether any analysis was performed using a method not in conformance with U.S. EPA's Guidelines.

**RECYCLED WATER PRODUCTION AND USE**

For basins where the Regional Water Board has adopted a Salt and Nutrient Management Plan, compliance with any monitoring and reporting requirements of the Salt and Nutrient Management Plan is to be used in lieu of the monitoring schedule below.

Recycled water quality characteristics, based on data included in the monthly reports provided by the Producer to the Regional Water Board, shall be used in calculations to ascertain loading rates. For basins where a Regional Water Quality Control Board has not adopted a Salt and Nutrient Management Plan, the Administrator shall monitor recycled water production, distribution, and use within its service area for each respective basin / sub-basin (Attachment F) for the following parameters:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Frequency</u>	
			Sampling	Reporting
Volume of recycled water <sup>1, 2</sup>	acre-feet	Varies	Monthly <sup>3</sup>	Annual
Total number of use areas / basin <sup>4</sup>	--	Observation	Annual	Annual
Total area of application	Acres	Observation	Monthly	Annual
Nitrogen application rate <sup>5, 6</sup>	lbs/acre/month	Calculated	Monthly	Annual
Salinity application rate <sup>7</sup>	lbs/acre/month	Varies <sup>1</sup>	Monthly	Annual

<sup>1</sup> Estimation of the volume of recycled water shall not include other potable or non-potable "make-up" water also used to irrigate landscape, if any.

<sup>2</sup> May be estimated based on daily percentage of recycled water supplied via a non-potable water supply system.

<sup>3</sup> May be estimated based on available data (e.g., meters read every other month or quarterly)

<sup>4</sup> This parameter represents the total number of use areas within the Administrator's service area with each respective basin / sub-basin.

<sup>5</sup> Nitrogen application rate shall consider nutrients contained in the recycled water, based on monthly analytical data provided by the Producer to the Regional Water Board.

<sup>6</sup> Nitrogen concentrations shall be calculated and reported "as N." For example, nitrate-nitrogen = 27 mg/L of (as NO<sub>3</sub>) shall be converted and reported as nitrate-nitrogen = 6 mg/L (as N).

<sup>7</sup> Salinity application rate shall be calculated using the applied volume of recycled, actual application area, the most recent results for the concentration of total dissolved solids in the recycled water.

## MONITORING AND REPORTING PROGRAM NO. 2009-0006-DWQ

Each month, the Administrator shall also verify that the recycled water has been filtered and disinfected consistent with criteria for disinfected tertiary recycled water. Based on monthly compliance data provided by the Producer to the Regional Water Board, the Administrator shall track turbidity<sup>1</sup> and disinfection<sup>2,3</sup> parameters. Exceedances of turbidity or disinfection standards<sup>4</sup> shall be documented and explained.

Each Producer and Distributor shall retain records of all monitoring information including all calibration and maintenance records, copies of all reports required by this General Permit, and records of all data used to complete the application for this General Permit. Records shall be maintained for a minimum of three years from the date of the sampling, measurement, or report. This period may be extended during the course of any unresolved investigation or litigation regarding the recycled water operation or when requested by the Executive Director.

The Administrator shall also ensure that Producers report priority pollutants to the Regional Water Board semiannually, in accordance with paragraph 7(b)(4) of the Recycled Water Policy.

### ADMINISTRATOR REPORTING

**By the 15 of April of each year**, the Administrator shall compile information for each basin/sub-basin within its service area consistent with the format identified in Attachment F and submit the compilation to the State Water Board. The compilation shall also contain the following items:

1. A summary and discussion of the compliance record for the reporting period. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with this General Permit; and
2. A description of the measures employed by the Administrator during the reporting period to conduct periodic inspections of the Use Areas. The description shall include the following elements: date of inspections, description of any violations identified during the reporting period including any indications of unauthorized cross-connections, and all actions taken or planned for correcting violations, such as operation or facility modifications.

The periodic inspection shall also include an evaluation verifying that the application of recycled water to the Use Area occurs at reasonable agronomic rates. The agronomic rate evaluation shall consider all applied nutrients from all sources (directly applied and as contained in the recycled water) the seasonal nutrient demand for the specific plants being grown; soil; and climate. If the agronomic rate evaluation determines that

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<sup>1</sup> Nephelometric Turbidity Units (NTU)

<sup>2</sup> For chlorine disinfection processes, use the product of total chlorine residual and modal contact time measured at the same point, CT (mg/L-min)

<sup>3</sup> For other disinfection processes, the Administrator shall report using appropriate applicable standards (e.g., minimum ultra violet dose or ozone CT)

<sup>4</sup> Title 22, Sections 60301.320, 60301.230 (a), and 60301.230 (b)

## MONITORING AND REPORTING PROGRAM NO. 2009-0006-DWQ

exceedances of the agronomic rate may be occurring, the Administrator shall implement corrective actions to ensure recycled water use occurs at reasonable agronomic rates.

If the Administrator has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory.

3. A description of approved amendments to the Title 22 Engineering Report, if any.
  - A description of new use sites approved by CDPH. The description shall include information necessary for the CDPH to evaluate new use sites pursuant to the Title 22 Requirements. Examples of necessary information may include location of backflow prevention devices, drinking fountains, groundwater wells, et cetera.
  - Copies of approval letter(s) prepared by CDPH regarding such amendments to the Title 22 Engineering Report.

All reports submitted in response to this General Permit shall comply with the signatory requirements. Monitoring data and/or discussions submitted concerning wastewater treatment plant performance must also be signed and certified by the chief plant operator.

The Administrator shall implement the above monitoring program on the first day of the month following the issuance of the Notice of Applicability. Annual monitoring reports shall be submitted to the State Water Board. Additional information regarding the appropriate place to submit annual reports will be available on-line at the State Water Board's website<sup>5</sup>.

### SPILL REPORTING

1. The Administrator shall ensure the Producer or Distributor reports any noncompliance that may endanger human health or the environment. The Producer or Distributor shall immediately report orally, or electronically if available, information of the noncompliance as soon as (1) the Producer or Distributor has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures, to the appropriate Regional Water Board office<sup>6</sup>.

A written report shall also be provided to the State Water Board within five (5) business days of the time the Producer or Distributor becomes aware of the incident. The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance.

2. The unauthorized discharge of 50,000 gallons or more of "disinfected tertiary recycled water" shall be reported as described in Spill Reporting No. 1. The unauthorized discharge of 1,000 gallons or more of "disinfected tertiary recycled water" shall be reported to the appropriate Regional Water Board office as soon as possible, but no later than seventy-two (72) hours after becoming aware of the unauthorized discharge.

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<sup>5</sup> [http://www.waterboards.ca.gov/water\\_issues/programs/water\\_recycling\\_policy/landscape\\_irrigation\\_general\\_permit.shtml](http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/landscape_irrigation_general_permit.shtml)

<sup>6</sup> [http://www.waterboards.ca.gov/waterboards\\_map.shtml](http://www.waterboards.ca.gov/waterboards_map.shtml)

## MONITORING AND REPORTING PROGRAM NO. 2009-0006-DWQ

### SIGNATORY REQUIREMENTS

All application reports or information to be submitted to the State Water Board shall be signed and certified by a duly authorized representative as follows:

1. For a corporation – by a principal executive officer or at least the level of vice president.
2. For a partnership or sole proprietorship – by a general partner or the proprietor, respectively.
3. For a municipality, state, federal, or other public agency – by either a principal executive officer or ranking elected official.

A duly authorized representative of a person may sign documents if:

- a. The authorization is made in writing by a person described in Signatory Requirements paragraphs 1, 2, or 3.
- b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
- c. The written authorization is submitted to the Executive Director.

Any person signing a document pursuant to this MRP shall make the following certification:

*I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.*

## ATTACHMENT A - DEFINITIONS

### WATER QUALITY ORDER NO. 2009-0006-DWQ

#### GENERAL PERMIT FOR LANDSCAPE IRRIGATION USES OF MUNICIPAL RECYCLED WATER

Within this General Permit, the following terms are defined as follows:

- a. Administrator: Either a Producer or Distributor designated to administer a recycled water program necessary to fulfill the requirements of this General Permit.
- b. Agronomic Rate: The rate of application of recycled water to plants that is necessary to satisfy the plants' watering and nutritional requirements, considering supplemental water (e.g., precipitation) and supplemental nutrients (e.g., fertilizers), while preventing or strictly minimizing the amount of nutrients that pass beyond the plants' root zone.
- c. Basin: See *Groundwater Basin*
- d. Beneficial Uses: Uses of the waters of the state that may be protected against quality degradation. Uses include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.
- e. California Department of Public Health (CDPH): The primary State agency responsible for protection of public health and the regulation of drinking water. The Legislature has defined several specific regulatory responsibilities of CDPH related directly or indirectly to recycled water use activities including establishment of statewide water reclamation criteria advising Regional Water Boards in the drafting of water reclamation requirements; review and approval of certain proposed water reclamation projects; abatement of contamination resulting from use of reclaimed water where public health is seriously threatened; and control of cross-connections between potable and nonpotable water systems.
- f. Disinfected Tertiary Recycled Water: Filtered and subsequently disinfected wastewater that meets the criteria defined in CCR Title 22, sections 60301.230 and 60301.320
- g. Distributor: Any combination, either in whole or in part, of a *Recycled Water Wholesaler, Recycled Water Supplier, or Recycled Water Retailer*.
- h. Drift: The water that escapes to the atmosphere as water droplets from a cooling system (Title 22, section 60301.240)



**ATTACHMENT A – DEFINITIONS**  
**WATER QUALITY ORDER NO. 2009-0006-DWQ**

- i. Emerging Constituents/Chemicals of Emerging Concern (CECs): Any synthetic or naturally occurring chemical or any microorganism that is not commonly monitored in the environment but has the potential to enter the environment and cause known or suspected adverse ecological and/or human health effects. In some cases, release of emerging chemical or microbial contaminants to the environment has likely occurred for a long time, but may not have been recognized until new detection methods were developed. In other cases, synthesis of new chemicals or changes in use and disposal of existing chemicals can create new sources of CECs. Chemicals that have been known to be discharged at given concentrations for which protective objectives have not been established may also be identified as CECs.
- j. Engineering Report: The report filed with CDPH to produce or supply recycled water for direct reuse. The report shall clearly indicate the means for compliance with the Title 22 Requirements. (Title 22 section 60323)
- k. Groundwater Basin (basin). Groundwater resources delineated by either the California Department of Water Resources, a Water Quality Control Plan, special act, or court order.
- l. Hose Bibb: A faucet or similar device to which a common garden hose can be readily attached (Title 22 section 60301.400)
- m. Incidental Runoff: Unintended small amounts (volume) of runoff from recycled water use areas, such as over-spray from sprinklers that escapes the recycled water use area. Water leaving a recycled water use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence.
- n. Irrigation Management Plan: All applied nutrients from all sources (directly applied and as contained in the recycled water) and the agronomic application rate and seasonal need for the specific plants being grown to assure that nutrients are not applied beyond the vegetative uptake rate and discharged into the environment.
- o. Producer: See *Recycled Water Producer*.
- p. Recycled Water: Water which, as a result of treatment of municipal wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource. "Recycled water" and "reclaimed water" have the same meaning.<sup>1</sup>

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<sup>1</sup> California Water Code section 26

**ATTACHMENT A – DEFINITIONS  
WATER QUALITY ORDER NO. 2009-0006-DWQ**

- q. Recycled Water Producer (Producer): Any public entity that produces recycled water. This includes public entities that further treat or enhance the quality of recycled water supplied by wastewater treatment facilities.
- r. Recycled Water Retailer (Distributor): As defined in Water Code section 13575(7), any retail water supplier in whose service area is located the property to which a customer requests the delivery of recycled water services.
- s. Recycled Water Supplier (Distributor): As defined in Water Code section 13575(6), any local entity, including a public agency, city, county, or private water company, that provides retail water service.
- t. Recycled Water Use Area (Use Area): An area where recycled water is to be used pursuant to this General Permit which is defined by its boundaries or project area (e.g. a golf course, residential neighborhood, school yard, park, etc.) so as to be consistent with Title 22 section 60301.920.
- u. Recycled Water User (User): A person or entity that uses recycled water.
- v. Recycled Water Wholesaler (Distributor): As defined in Water Code section 13575(5), any public entity that distributes recycled water to retail water suppliers and which has constructed, or is constructing, a recycled water distribution system.
- w. Salt and Nutrient Management Plans: Salt and nutrient plans shall be tailored to address the water quality concerns in each basin/sub-basin and may include constituents other than salt and nutrients that impact water quality in the basin/sub-basin. Such plans shall address and implement provisions, as appropriate, for all sources of salt and/or nutrients to groundwater basins, including recycled water irrigation projects.
- x. Unauthorized Discharge: (Water Code section 13529.2) Discharge of recycled water, without regard to intent or negligence, not authorized by waste discharge requirements issued pursuant to Water Code sections 13260-13274 (e.g., RWD, WDRs, waiver, etc.), 13523 (i.e., WRRs), or 13523.1 (i.e., Master Reclamation Permit).
- y. User: See *Recycled Water User*.
- z. Water Quality Objectives: The limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.
- aa. Water Recycling Criteria: Uniform statewide recycling criteria established in California Code of Regulations Title 22 by CDPH for each varying type of use of recycled water where the use involves the protection of public health (Water Code section 13521).

**ATTACHMENT B - NOTICE OF INTENT (NOI)**

**FOR COVERAGE PURSUANT TO WATER QUALITY ORDER NO. 2009-0006-DWQ**

**GENERAL PERMIT FOR  
LANDSCAPE IRRIGATION USES OF MUNICIPAL RECYCLED WATER**

**I. Distributor (Required)<sup>1</sup>:**

Agency / Organization / Name:			
Facility, if any:			
Conveyance Role (Check all that apply): <input type="checkbox"/> Recycled Water Retailer <input type="checkbox"/> Recycled Water Supplier <input type="checkbox"/> Recycled Water Wholesaler		Distributor declares responsibility for administering program necessary to fulfill the requirements of this General Permit: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Description of Recycled Water Conveyance Role:			
Existing Water Reclamation Requirements (if any):		Do you request to rescind the identified existing WRRs? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Mailing Address:			
City:	County:	State:	Zip:
Phone Number:		Fax Number:	
Contact Person:		E-Mail:	

**II. Producer (Required)<sup>1</sup>:**

Agency / Organization:			
Facility:			
Producer declares responsibility for administering program necessary to fulfill the requirements of this General Permit: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Order Number:	WDID:	Treatment: <input type="checkbox"/> Disinfected Tertiary <sup>2</sup> <input type="checkbox"/> Advanced <sup>3</sup>	
Existing Water Reclamation Requirements (if any):		Do you request to rescind the identified existing WRRs? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Mailing Address:			
City:	County:	State:	Zip:
Phone Number:		Fax Number:	
Contact Person:		E-Mail:	

<sup>1</sup> Attach multiple sheets if necessary; only one administrator of this General Permit is allowed per NOI.

<sup>2</sup> As defined in California Code of Regulations Title 22, sections 60301.230 and 60301.320

<sup>3</sup> Achieves "disinfected tertiary" quality and includes additional treatment.

**ATTACHMENT B – NOTICE OF INTENT (NOI)  
WATER QUALITY ORDER NO. 2009-006-DWQ**

III. Billing Address (Required):

Agency / Organization / Name:			
Mailing Address:			
City:	County:	State:	Zip:
Phone Number:		Fax Number:	
Contact Person:		E-Mail:	

IV. Salt and Nutrient Management Plans (required)

For projects where Salt and Nutrient Management Plan is in effect.
<p>Salt and Nutrient Management Plan, approved by a Regional Water Board?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No; check one of the two boxes below:</p> <p><input type="checkbox"/> Under development, estimated completion date:     I am actively participating in this development effort.</p> <p><input type="checkbox"/> No organized effort to develop a Salt and Nutrient Management Plan for the basin exists at this time. I will actively participate in the development of a Salt and Nutrient Management Plan when the effort commences.</p>
For projects where Salt and Nutrient Management Plan is <b>not</b> in effect.
Antidegradation analysis completed consistent with Recycled Water Policy Paragraph 9d.(2)? <input type="checkbox"/> Yes <input type="checkbox"/> No

V. Certification (Required):

<p><i>I hereby agree to meet and follow the requirements set forth in Water Quality Order No. 2009-0006-DWQ. I also agree to adhere to the Operation &amp; Maintenance Plan, submitted herewith, and to ensure the proper use of recycled water for landscape applications. I also agree that, where an applicable Salt and Nutrient Management Plan is adopted by a Regional Water Board, I will ensure full compliance by all producers and distributors under this permit to any monitoring and reporting elements therein. Upon approval of coverage under the General Permit I will assume responsibility for administering an appropriate program necessary to fulfill the requirements of Water Quality Order No. 2009-0006-DWQ. I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.</i></p>		
I.	Signature of Administrator:	Title:
	Printed or Typed Name:	Date:

**ATTACHMENT B – NOTICE OF INTENT (NOI)  
WATER QUALITY ORDER NO. 2009-006-DWQ**

*I hereby agree to meet and follow the requirements set forth in Water Quality Order No. 2009-0006-DWQ. I also agree to adhere to the Operation & Maintenance Plan, submitted herewith, and to ensure the proper use of recycled water for landscape applications. I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.*

I.	Signature of Distributor <sup>4,5</sup> :	Title:
	Printed or Typed Name:	Date:
II.	Signature of Producer <sup>6</sup> :	Title:
	Printed or Typed Name:	Date:

<sup>4</sup> For additional distributors other than the Administrative Distributor.

<sup>5</sup> Attach multiple sheets if necessary.

<sup>6</sup> Attach multiple sheets if necessary.

## ATTACHMENT C

### BEST MANAGEMENT PRACTICES (BMPs)

#### WATER QUALITY ORDER NO. 2009-0006-DWQ

#### GENERAL PERMIT FOR LANDSCAPE IRRIGATION USES OF MUNICIPAL RECYCLED WATER

This menu of potential Best Management Practices (BMPs) identifies some practices for the management of the production, distribution, and use of recycled water that, in addition to requirements in law<sup>1</sup>, will help ensure the safe and efficient use of recycled water. Many of these BMPs are also intended to minimize or eliminate conditions that cause runoff, ponding, and windblown spray (drift). Recycled Water Specification B.15 requires the Administrator to implement and ensure that all other Producers, Distributors, and Users associated with each respective NOI implement the Required BMPs identified in Section I and to consider implementing other BMPs (Sections II – IV) as appropriate for a Recycled Water Use Area.

#### I. REQUIRED BMPs

- A. Implementation of operations and management plan that provides for detection of leaks, and correction either within 72 hours of learning of a leak, or prior to the release of 1,000 gallons.
- B. Proper design and operation of sprinkler heads.
- C. Refraining from application during precipitation events.
- D. Management of any impoundment such that no discharge occurs unless the discharge is a result of a 25-year, 24-hour storm event or greater. In the event of an unauthorized discharge, the Executive Officer of the appropriate Regional Water Board shall be notified, as described in Provision C.16.

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#### II. OTHER POTENTIAL BMPs: GENERAL OPERATIONAL CONTROLS

- A. The Recycled Water Use Supervisor attends regular training regarding the safe and efficient operation and maintenance of recycled water use facilities.
- B. The Recycled Water Use Supervisor ensures that all recycled water facilities are maintained, operated and repaired at all times in a manner that does not cause illness or injury to any person and in a manner that does not cause damage or injury to the real or personal property of any person or entity.
- C. Where feasible, different piping materials are used to assist in water system identification.

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<sup>1</sup> Water Code, Health and Safety Code, California Code of Regulations, etc.

**ATTACHMENT C – BEST MANAGEMENT PRACTICES (BMPS)  
WATER QUALITY ORDER NO. 2009-0006-DWQ**

**III. OTHER POTENTIAL BMPs: WORKER/PUBLIC PROTECTION**

- A. Workers, residents, and the public are made aware of the potential health risks associated with contact or ingestion of recycled water, and are educated about proper hygienic practices to protect themselves and their families.
- B. Workers are provided with the appropriate safety equipment and clothing during prolonged contact with recycled water.
- C. Potable drinking water is provided for workers.
- D. Toilet and washing facilities are provided.
- E. Precautions are taken to avoid contact of recycled water with food and food is not allowed into areas that are still wet with recycled water.
- F. A first aid kit is available on site, to prevent the contact of cuts and other injuries with recycled water.

**IV. OTHER POTENTIAL BMPs: EFFICIENT IRRIGATION**

Hardware:

- A. All irrigation systems have the appropriate equipment/hardware for the application.
- B. Irrigation system installed according to the design.
- C. Irrigation system is designed to provide as much flexibility as possible for the operation of the irrigation system.
- D. All sprinkler heads are uniform in brand, model and nozzle size. Where different arcs are needed at the same station, matched precipitation rates by changing nozzles.
- E. Sprinkler heads placed per manufacturer's recommendations and based on measured spacing between sprinkler heads.
- F. Where lower precipitation rates are required, such as on slopes, reduced nozzle size and spray angle per manufacturer's recommendations.
- G. Installed booster pumps to increase pressure where needed.
- H. Installed pressure reducers to decrease pressure where needed.
- I. Pipes sized to convey water in the quantity required by the system.
- J. Check valves installed either in-line or built into the sprinkler head assembly to minimize low head drainage after the valve has closed.
- K. Automatic flow control devices installed that shut down a system if a break or other similar high flow/low pressure situation develops during irrigation.
- L. Use centralized control systems or controllers that measure or can be programmed to use evaporation rates, or systems that use controls such as moisture sensors.

Maintenance:

- M. Routinely adjust sprinkler heads so they achieve 80% head to head coverage throughout their intended arc. There are no obstructions that would interfere with the free rotation and smooth operation of any sprinkler, (e.g., trees, tall grass, shrubs, signs, etc.). The system is routinely tested so adjustments can be made.
- N. Routinely adjust valves or pressure regulators so that the systems are operating at the pressure required by the sprinkler heads or emitters. Routinely test pressures periodically with a pressure gauge to maintain appropriate pressure levels.
- O. Routinely test the accuracy of time clocks and recalibrate or repair as necessary.

**ATTACHMENT C – BEST MANAGEMENT PRACTICES (BMPS)  
WATER QUALITY ORDER NO. 2009-0006-DWQ**

- P.** Repair or replace broken risers, sprinklers, valves, etc. as soon as they are discovered; replace with appropriate make and model of equipment to maintain uniformity through out the system.
- Q.** Routinely check backflow devices, pumps, etc. for leaks and repair or replace as necessary.
- R.** Routinely clean screens and backwash filters to keep systems operating optimally.

Management:

- S.** Determined the optimum duration and frequency for irrigation cycles considering evapotranspiration, soil type, plant varieties being irrigated, climatic conditions, and any other factors affecting optimum irrigation efficiencies.
- T.** Irrigation with recycled water only occurs during periods of minimal public use of the Use Area with consideration given to allow an adequate dry-out time before the Use Area will be used by the public.
- U.** The frequency of respective irrigation cycles is only as often as necessary to meet the water requirements of the landscape. This is determined by measuring the amount of moisture remaining in the root zone reservoir between irrigation cycles. Moisture levels in the root zone is measured and optimized via the use of tensiometers, gypsum blocks, soil probes, the “feel method”, an on-site weather station, and or the California Irrigation Management Information System (CIMIS) to estimate soil moisture levels. These methods are reviewed, inspected, and maintained regularly to ensure accuracy and reliability.
- V.** Use automatic rain shut-off devices to reduce irrigation if significant rainfall occurs.
- W.** Use multiple rain shut-off devices to reduce ponding if precipitation rate is higher than the infiltration rate of the soil.
- X.** Majority of irrigation occurs in the evening or early morning to avoid the heat and/or windy parts of the day.
- Y.** Irrigated areas grouped into zones of similar water use.
- Z.** As needed, aerate the soil to improve infiltration of air and water into the soil.
- AA.** Perform good horticultural practices; fertilization, mowing, de-thatching, aeration, and pest control, as necessary to create the best growing environment for landscape vegetation.
- BB.** Provided infiltration areas at the lowest elevation of the Use Area.
- CC.** Installed storm drain inlet valves or plugs to contain accidental discharges during dry weather
- DD.** Implemented low impact development practices to minimize runoff that contains recycled water.
- EE.** Employ water budgeting using evapotranspiration data from CIMIS or an on-site weather station and crop coefficients from Water Use Classification of Landscape Species (WUCOLS)
- FF.** Dedicated landscape water meters for monitoring of water budget and leak detection.
- GG.** Conformance to local or the State Water Efficient Landscape Ordinance.
- HH.** Education of residents, customers and employees regarding the importance of efficient water use.
- II.** Each site supervisor has been provided a conductivity tester as a tool to help them determine the difference between recycled water and potable water.



**ATTACHMENT D**  
**RECYCLED WATER USE SIGNAGE**  
**FOR**  
**WATER QUALITY ORDER NO. 2009-0006-DWQ**  
**GENERAL PERMIT FOR**  
**LANDSCAPE IRRIGATION USES OF MUNICIPAL RECYCLED WATER**



**ATTACHMENT E - NOTICE OF TERMINATION**

**OF COVERAGE PURSUANT TO WATER QUALITY ORDER NO. 2009-0006-DWQ**

**GENERAL PERMIT FOR  
LANDSCAPE IRRIGATION USES OF MUNICIPAL RECYCLED WATER**

**I. Reason for Termination (Required):**

<input type="checkbox"/> Cessation of Recycled Water Use <input type="checkbox"/> Recycled Water not treated to required standards <input type="checkbox"/> Change of Ownership <input type="checkbox"/> Other: _____	
Notice of Applicability Order No. 2009-0006-DWQ Date Issued: _____	WDID: _____

**II. Producer (Required)<sup>1</sup>:**

Agency / Organization / Name:	
Facility:	
Order Number:	Facility WDID:

**III. Distributor (Required)<sup>2</sup>:**

Agency / Organization / Name:	
Facility:	

**IV. Certification (Required)<sup>3</sup>:**

<i>I certify under penalty of law that all authorizations for uses of recycled water, have been eliminated or that I am no longer the Producer or Distributor of recycled water as defined in the Notice of Applicability identified in Section I. I understand that by submitting this Notice of Termination I am no longer authorized to produce or distribute recycled water pursuant to the Notice of Applicability identified in Section I. I also understand that submittal of this Notice of Termination does not release any of the subject entities from liability for any violations of, Water Quality Order No. 2009-0006-DWQ or the California Water Code, or the California Code of Regulations.</i>		
<b>I.</b>	Signature of Producer :	Title:
	Printed or Typed Name:	Date:
<b>II.</b>	Signature of Distributor :	Title:
	Printed or Typed Name:	Date:

<sup>1</sup> Attach multiple sheets if necessary.

<sup>2</sup> Attach multiple sheets if necessary.

<sup>3</sup> Attach multiple sheets if necessary.

**ATTACHMENT F – BASIN/SUB-BASIN  
ANNUAL REPORTING FORMAT**

**WATER QUALITY ORDER NO. 2009-0006-DWQ**

**GENERAL PERMIT FOR  
LANDSCAPE IRRIGATION USES OF MUNICIPAL RECYCLED WATER**

**I. Administrator:**

Agency / Organization:				
Facility:				
Landscape Irrigation General Permit Number:		Landscape Irrigation General Permit WDID:		
Mailing Address:				
City:	County:	State :	Zip:	Phone Number:
Contact Person:		E-Mail:		
Any CDPH Approved Amendments to the Title 22 Engineering Report?  <input type="checkbox"/> Yes <input type="checkbox"/> No				

**II. Recycled Water Distributor Information<sup>1</sup>:**

Agency / Organization:				
Facility:				
Landscape Irrigation General Permit Number:		Landscape Irrigation General Permit WDID:		
Distributor Recycled Water Conveyance Role (Check all that apply): <input type="checkbox"/> Recycled Water Retailer <input type="checkbox"/> Recycled Water Wholesaler <input type="checkbox"/> Recycled Water Supplier				
Description of Recycled Water Conveyance Role:				
Mailing Address:				
City:	County:	State :	Zip:	Phone Number:
Contact Person:		E-Mail:		

<sup>1</sup> Attach multiple sheets if necessary.



**ATTACHMENT F – BASIN/SUB-BASIN  
ANNUAL REPORTING FORMAT  
WATER QUALITY ORDER NO. 2009-0006-DWQ**

V. Recycled Water Use Supervisor:

Agency / Organization / Name:			
Mailing Address:			
City:	County:	State:	Zip
Phone Number:		Fax Number:	
Contact Person:		E-Mail:	
Date of most recent training / certification as Recycled Water Use Supervisor:		Training / certification provided by:	

VI. Annual Recycled Water Report for the Basin / Sub-basin

Month	Volume of Recycled Water (Ac-ft.)	Total Number of Use Areas / basin	Area of Application (Acres)	Nitrogen Application Rate (lbs/Acre/Month)	Salinity Application Rate (lbs/Acre/Month)
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
<b>Annual Average<sup>1</sup>:</b>					
<b>Total:</b>					

<sup>1</sup> Mean average value for the calendar year.

**ATTACHMENT F – BASIN/SUB-BASIN  
ANNUAL REPORTING FORMAT  
WATER QUALITY ORDER NO. 2009-0006-DWQ**

OTHER DOCUMENTATION

<p><b>Describe approved amendments to the approved Title 22 Engineering Report. Include copies of approval letter(s) prepared by CDPH regarding such amendments to the Title 22 Engineering Report if any.</b></p>			
<p><b>Provide a description of new use sites approved by CDPH. The description shall include information necessary for the CDPH to evaluate new use sites pursuant to the Title 22 Requirements. Examples of necessary information may include location of backflow prevention devices, drinking fountains, groundwater wells, et cetera.</b></p>			
<p><b>Describe the nature, extent, and cause of any exceedances of turbidity or disinfection standards, if any. Discuss corrective actions taken or planned to resolve the exceedances of turbidity or disinfection standards</b></p>			
<p><b>PERIODIC INSPECTION OF RECYCLED WATER USE AREA</b></p>			
<p><b>Cross-connection Prevention</b></p>			
<p>Recycled Water Use Area Name</p>	<p>Date of Inspection(s) for cross-connection prevention:</p>	<p>Description of violations identified, if any:</p>	<p>Actions taken or planned for correcting violations:</p>
<p><b>Agronomic Rate Evaluation</b></p>			
<p>Average Agronomic Demand (lbs/acre/year)</p>		<p>Average Nitrogen application (lbs/acre/year)</p>	
<p>Corrective actions taken to ensure recycled water use occurs at reasonable agronomic rates</p>			